IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-5 (Canceled).

6 (Withdrawn) A method for thermal treatment comprising the step of:

heating a substrate by using gas heated by a heating unit as a heating source,

wherein the thermal treatment is performed by using a thermal treatment equipment comprising treatment rooms of n pieces ($n > 2$) each having the heating unit, a preparatory heating room, and a cooling room, gas heated by an m-th ($1 \leqq m \leqq (n-1)$) heating unit is supplied to an m-th treating room by treating rooms and gas-heating units of n pieces ($n > 2$), gas supplied to the m-th treatment room is heated by an $(m + 1)$-th heating unit and is supplied to an $(m + 1)$-th treatment room, substrates arranged at the treatment room of n pieces are heated, gas supplied to an n-th treatment room is supplied to a heat exchanger, gas supplied from a gas-supplying unit is used as a heating source for heating, gas supplied from the gas-supplying unit is supplied to the cooling room, gas discharged from the cooling room is supplied to a first gas-heating unit through the heat exchanger, and gas discharged from the heat exchanger is supplied to the preparatory heating room.

7. (Withdrawn) A method for thermal treatment according to Claim 6, wherein nitrogen or noble gas is used for the gas.

8. (Withdrawn) A method for thermal treatment according to Claim 6, wherein reducing gas is used for the gas.

9. (Withdrawn) A method for thermal treatment according to Claim 6, wherein oxidizing gas is used for the gas.

10-19 (Canceled).

20 (Withdrawn) A method for thermal treatment comprising the steps of:

introducing n substrates ($n > 2$) into treatment rooms of n pieces; and

heating the n substrates by gas-heating units of n pieces as heating sources,

wherein a charge port of an m-th ($1 \leqq m \leqq (n-1)$) treatment room is connected to a discharge port of an m-th gas-heating unit, a charge port of an n-th treatment room is connected to a discharge port of an n-th gas-heating unit, and a discharge port of the n-th treatment room is connected to a heat exchanger.

21. (Withdrawn) A method for thermal treatment according to Claim 20, wherein nitrogen or noble gas is used for the gas.

22. (Withdrawn) A method for thermal treatment according to Claim 20, wherein reducing gas is used for the gas.

23. (Withdrawn) A method for thermal treatment according to Claim 20, wherein oxidizing gas is used for the gas.

24-27 (Canceled).

28. (Currently Amended) A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over a substrate;

introducing a crystallization promoting material to the semiconductor film;

crystallizing the semiconductor film by heating;

placing the substrate in a cooling room after the crystallization;

cooling the crystalline semiconductor film by ~~applying~~ supplying a first cooling gas into the cooling room after the crystallizing;

gettering the crystallization promoting material from the crystalline semiconductor film; and

placing the substrate in the cooling room after the gettering;

cooling the crystalline semiconductor film by ~~applying~~ supplying a second cooling gas into the cooling room after the gettering.

29. (Previously presented) A method according to claim 28, wherein the first cooling gas comprises at least one of nitrogen and a noble gas.

30. (Previously presented) A method according to claim 28, wherein the second cooling gas comprises at least one of nitrogen and a noble gas.

31. (Previously presented) A method according to claim 28, wherein the crystallization promoting material comprises at least one material selected from the group consisting of Ni, Fe, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

32. (Currently amended) A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over a substrate;

introducing a crystallization promoting material to the semiconductor film;

crystallizing the semiconductor film by applying a heating gas;

placing the substrate in a cooling room after the crystallization;

cooling the crystalline semiconductor film by ~~applying~~ supplying a first cooling gas into the cooling room after the crystallizing;

gettering the crystallization promoting material from the crystalline semiconductor film; and

placing the substrate in the cooling room after the gettering;

cooling the crystalline semiconductor film by ~~applying~~ supplying a second cooling gas into the cooling room after the gettering.

33. (Previously presented) A method according to claim 32, wherein the first cooling gas comprises at least one of nitrogen and a noble gas.

34. (Previously presented) A method according to claim 32, wherein the second cooling gas comprises at least one of nitrogen and a noble gas.

35. (Previously presented) A method according to claim 32, wherein the heating gas comprises at least one of nitrogen and a noble gas.

36. (Previously presented) A method according to claim 32, wherein the crystallization promoting material comprises at least one material selected from the group consisting of Ni, Fe, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

37. (Currently amended) A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over a substrate;

introducing a crystallization promoting material to the semiconductor film;

crystallizing the semiconductor film by heating;

placing the substrate in a cooling room after the crystallization;

cooling the crystalline semiconductor film by ~~applying~~ supplying a first cooling gas into the cooling room after the crystallizing;

forming an amorphous semiconductor film over the crystalline semiconductor film;

gettering the crystallization promoting material from the crystalline semiconductor film thereby the crystallization promoting material diffuses into the amorphous semiconductor film; and

placing the substrate in the cooling room after the gettering;

cooling the crystalline semiconductor film by ~~applying~~ supplying a second cooling gas into the cooling room after the gettering.

38. (Previously presented) A method according to claim 37, wherein the first cooling gas comprises at least one of nitrogen and a noble gas.

39. (Previously presented) A method according to claim 37, wherein the second cooling gas comprises at least one of nitrogen and a noble gas.

40. (Previously presented) A method according to claim 37, wherein the crystallization promoting material comprises at least one material selected from the group consisting of Ni, Fe, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

41. (Currently amended) A method for manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film over a substrate;

introducing a crystallization promoting material to the semiconductor film;

crystallizing the semiconductor film by heating;

placing the substrate in a cooling room after the crystallization;

cooling the crystalline semiconductor film by ~~applying~~ supplying a first cooling gas into the cooling room after the crystallizing;

forming an insulating film on the crystalline semiconductor film;

forming an amorphous semiconductor film on the insulating film;

gettering the crystallization promoting material from the crystalline semiconductor film thereby the crystallization promoting material diffuses into the amorphous semiconductor film through the insulating film; and

placing the substrate in the cooling room after the gettering;

cooling the crystalline semiconductor film by ~~applying~~ supplying a second cooling gas into the cooling room after the gettering.

42. (Previously presented) A method according to claim 41, wherein the first cooling gas comprises at least one of nitrogen and a noble gas.

43. (Previously presented)A method according to claim 41, wherein the second cooling gas comprises at least one of nitrogen and a noble gas.

44. (Previously presented) A method according to claim 41, wherein the crystallization promoting material comprises at least one material selected from the group consisting of Ni, Fe, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.